CLAIMS

1. Method for preparing methyl 2-diphenylmethylsulfinylacetate (MDMSA) comprising the steps of :

(i) conversion of benzhydrol into methyldiphenylmethylthio-acetate ; and

(ii) conversion of methyldiphenylmethylthioacetate into methyl-2-diphenylmethylsulfinylacetate.

2. Method according to claim 1, in which step (i) comprises the following steps :

a1) conversion of benzhydrol to benzhydrol carboxylate in an appropriate solvent ;

b1) conversion of the benzhydrol carboxylate to methyl diphenylmethylthioacetate.

3. Method according to claim 2, in which the step (a1) comprises reacting benzhydrol and an acid anhydride in the presence of an inorganic acid and in an appropriate solvent.

4. Method according to claim 3, in which the solvent is an aprotic solvent.

5. Method according to claim 4, in which the aprotic solvent is chosen from chlorinated solvents, aromatic solvents, hydrocarbon solvents and ethereal solvents.

6. Method according to claim 5, in which the aprotic solvent is chosen from chlorinated solvents.

7. Method according to claim 6, in which the solvent is dichloromethane.

8. Method according to any one of claims 3 to 7, in which the acid anhydride is chosen from acetic anhydride, propanoic anhydride and butyric anhydride.

9. Method according to claim 8, in which the acid anhydride is acetic anhydride.

10. Method according to any one of claims 3 to 9, in which the inorganic acid is chosen from hydrochloric acid, butyric acid, o-phosphoric acid and sulfuric acid.

11. Method according to claim 10, in which the inorganic acid is sulfuric acid.

12. Method according to any one of claims 3 to 11, in which the quantity of inorganic acid used is from 0.02 to 0.3 molar equivalents relative to the benzhydrol.

13. Method according to any one of claims 3 to 12, in which the reaction temperature in step a) is between –5°C and +5°C.

14. Method according to claim 2 to 13, in which step b1) comprises bringing the solution obtained in step a) into contact with methyl thioglycolate.

15. Method according to claim 14, in which the contact time used in step b1) is between 2 and 3 hours.

16. Method according to claim 14 to 15, in which the contact temperature used in step b1) is between 15°C and 25°C.

17. Method according to any one of the preceding claims, in which the oxidizing agent is chosen from oxone, potassium permanganate, sodium

percarbonate, peroxides such as hydrogen peroxide, tert-butyl hydroperoxide and m-chloroperoxybenzoic acid.

18. Method according to claim 17, in which the oxidizing agent is hydrogen peroxide.

19. Method according to claim 18, in which the hydrogen peroxide is added in the form of a 35% aqueous solution.

20. Method according to any one of the preceding claims, in which the oxidizing agent is used in an amount of 1 to 1.1 molar equivalent.

21. Method according to any one of the preceding claims, in which the reaction temperature in step (ii) is between 28°C and 37°C.

22. Method according to one of claims 3 to 21, in which an additional quantity of inorganic acid is added in step (ii).

23. Method according to claim 22, in which the additional quantity of inorganic acid is from 0.02 to 0.3 molar equivalents.

24. Method according to either of claims 22 and 23, in which the contact time in step (ii) is between 10 and 13 hours.

25. Method according to any one of the preceding claims, which comprises an additional step (iii) recovering the methyl 2-diphenyl-methylsulfinylacetate obtained.

26. Method according to claim 25, in which step (iii) comprises a distillation of the solvent to dryness.

27. Method according to any one of claims 25 to 26, in which step (iii) comprises a step of direct crystallization.

28. Method according to claim 27, in which the crystallization solvent is chosen from methanol, ethanol, ethyl acetate, isopropyl acetate and toluene.

29. Method according to claim 28, in which the crystallization solvent is isopropyl acetate.

30. Method according to any one of the preceding claims, in which the successive steps are carried out in the same reactor without isolation of the intermediate compounds.

31. Method for preparing modafinil comprising preparing MDMSA according to claims 1 to 30.